Efficient Networks, Inc.

Revision 1.3

SpeedStream ® 5400 Series 4 port Ethernet SOHO DSL Router

Product Feature Matrix

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1 Introduction

The SpeedStream® 5400 Series 4 Port Ethernet SOHO DSL router is designed for the small office or home office (SOHO) that needs to share DSL access across a small network. The SpeedStream® 5400 Series SOHO DSL router provides four IEEE 802.3/802.3u 10/100BaseT switch (Ethernet) LAN interfaces toward the local user equipment, and a single ATM-based DSL interface toward the public network.
Four PCs or workstations can be directly attached to the switch ports, or multiple local devices can be attached via an external Ethernet hub or switch.

The SpeedStream® 5400 Series SOHO DSL router supports full routing based functionality. Among the features supported by the SpeedStream® 5400 Series SOHO DSL router are: DHCP, DNS Relay, NAT, NAPT, UPnP, RFC 2364, RFC 2516, RFC 2864 (Bridged and Routed), PPPoE Relay/Bridging, static routes, VPN pass-through, and a stateful-inspection firewall with Denial of Service (DoS) protection.
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1.1 Legend

Value	Description
Yes	Supported
No	Not Supported
N/A	Not Applicable

2 Power, Mechanical, Packaging

2.1 Power

Feature	Comments
Input	120VAC, 300mA, 60 Hz
Output	12V/1A
External AC power supply	Yes
External power switch	No
Power consumption	10 watts maximum

2.2 Physical Interfaces

Feature	Comments
10/100 Base-T connector	(4) RJ-45 LAN port
RJ-11 connector	RJ-11 ADSL WAN port
Serial console	No
Reset Button	Yes

2.3 Visual Indicators

Feature	Comments
Front panel LED for Power status	Yes
Front panel LED for DSL status	Yes
Front panel LED for Ethernet status	Yes, 4 individual LEDs for each interface

2.4 Product Cabinet

Feature	Comments
Desktop package	Yes
Cooling fan	No

2.5 Product Packaging

2.5.1 Cabling

Feature	Comments
RJ-11 Phone Cable	Yes, 6ft (1.82 m); Grey
RJ-45 Straight-through cable	Yes, 6ft (1.82 m); Grey
RJ-45 Crossover cable	Yes, 6ft (1.82 m); Blue (Available option, additional charges may apply)

2.5.2 Documentation

Feature	Comments
Quick start guide	Yes
Product Safety Certification sheet	Yes
SW/HW License Agreement	Yes
Warranty Registration Card	Yes
Release notes	Yes, if necessary
“Get Networked” Brochure	Yes, optional
Software/Documentation CD	Yes, CD contains quick start guide, and Adobe Acrobat Reader

2.5.3 Physical Packaging

Feature	Comments
Dimensions	6.2W x 4.4D x 1.6H in. 157W x 111D x 40H mm
Weight:	1.15 lbs (521 g)
Shock resistant individual shipping package	Yes

2.6 Environmental

Feature	Comments
Operating temperature	0 to 40 degrees centigrade
Non-operating storage	-10 to +75 degrees centigrade
Operating humidity	10% to 90% Non-condensing
Non-operating humidity	5% to 95% Non-condensing

2.7 Quality and Reliability

Feature	Comments
MTBF	Exceeds 90,000 hours

3 Safety and Certification

3.1 Safety and Emissions

Feature	Comments
FCC Part 15 emissions	Class B
FCC Part 68 approval	Yes
CE Mark	Yes
UL Mark	Yes
CSA	Yes
Industry Canada Mark	Yes

4 User Plane Capabilities

4.1 10/100 BASE-T Ethernet Interface

Feature	Comments
Number of switch ports	4
Factory MAC address	Yes
IEEE 802.3/802.3u Ethernet	Yes
Ethernet v2	Yes
Half/Full duplex Ethernet	Yes
Auto MDI-MDIX support	Yes

4.2 DMT ADSL WAN Interface

Feature	Comments
ADSL DMT chipset & version	TI AR5
ITU-T G.992.1	Yes
ITU-T G.992.2	Yes
ITU-T G.994.1	Yes
ANSI T1.413 Issue 2	Yes
Explicit rate operation	Yes; As set by ATU-C
Rate adaptive operation	Yes; As set by ATU-C
Fast or interleaved Forward Error Correction	Yes; As set by ATU-C
Dual latency	No; single latency path is supported
Dying Gasp	Yes
Network Timing Reference	No
Frequency Division Multiplexing	Yes
Echo Cancellation	Yes
Bit swapping	Yes; As supported by TI chipset
Trellis coding	Yes; As supported by TI chipset

5 Control Plane Capabilities

5.1 AAL5, ATM and Cell Transmission Convergence

Feature	Comments
Maximum simultaneous VCCs	8
Pre-configured PVCs	Yes, 0/32, 0/35, 0/36, 0/37, 0/38, 8/35 and 1/35; (customer specific PVC configuration can be supported.)
VPI range	VPI= 0-255
VCI range	VCI= 0-65,535
ATM traffic classes supported	UBR, CBR, VBRnt and VBRrt
per-VCC Peak Cell Rate traffic shaping	Yes
ITU I.432 HEC cell delineation	Yes
ITU I.432 cell payload scrambling	Yes
ATM to DMT transmission convergence	AS0 downstream, LS0 upstream ADSL Forum TR-002
UNI 3.1/4.0 Support	Yes, PVC
ILMI version	Future support
SVC signaling version	Future support

5.2 ATM/AAL5 Data Encapsulation

Feature	Comments
IP encapsulation into PPP	Yes
RFC 2684 Bridged Ethernet encapsulation	Yes
RFC 2684 Routed IP Ethernet encapsulation	Yes
RFC 2364 PPP over ATM	Yes
RFC 2516 PPP over Ethernet	Yes
Multiple PPPoE sessions	Yes, (up to 5 on a single VC)

5.3 Packet Forwarding

5.3.1 Layer 3 Routing – IP

Feature	Comments
Static routing	Yes, maximum of 16
Default route	Yes
Variable length subnet masks	Yes
RIP version 1	Yes, active and passive
RIP version 2	Yes, active and passive
Multiple Virtual Routers	Yes, via each interface
VCC to VCC routing	No
ICMP redirects	Yes
Simultaneous routing and bridging	Yes
CIDR Support	Yes
IP unnumbered	Future

5.3.2 Layer 3 Routing – Other Protocols

Feature	Comments
IPX routing	No, but bridgeable
AppleTalk	No, but bridgeable

5.3.3 Layer 2 Bridging

Feature	Comments
IEEE 802.1d MAC layer bridging	Yes
MAC address learning and aging	Yes
Maximum MAC addresses learned	255
Spanning Tree Algorithm	Yes, disabled by default
Multicast groups	Yes
VCC to VCC bridging	Yes, optional
MAC address filtering	No
Port Switching	Yes

6 Management Plane Capabilities

6.1 Management Interfaces

6.1.1 Local and Remote Console

Feature	Comments
Command line interface via serial port	No
Password Protection	Yes
Command line interface via Telnet	Yes
Telnet access via LAN and WAN ports	Yes

6.1.2 Remote Protocol-based Management

6.1.2.1 SNMP

Feature	Comments
SNMP v1 support	Yes, GETs only.
RFC 1213 MIB-II	Yes
RFC 1623 Ethernet MIB	Yes
RFC 2515 ATM MIB	Yes
RFC 2662 ADSL MIB	Yes
ADSL Forum Line MIB	Yes

6.1.2.2 HTTP – Web-Based Management

Feature	Comments
Internal HTTP server	Yes
Web management	Yes, LAN and WAN
Password Protected	Yes
Ability to disable	Yes
Ability to run over port other than 80	Yes
HTML based help	Yes
Browser compatibility	Internet Explorer 4.0 and Netscape Navigator 4.0 or greater
JAVA based	No

6.2 ATM Layer In-band Management

Feature	Comments
Generate and reply to F4 & F5 Loopback OAM cells	No, reply only
F4 & F5 AIS/RDI OAM cell flow support	Yes

6.3 ADSL In-band Management

Feature	Comments
DMT Embedded Operations Channel (EOC)	Yes; As supported by DSL chipset

6.4 Configuration Management

6.4.1 Firmware and Configuration Updates

Feature	Comments
Remote Firmware updates	Yes, via telnet and/or HTTP. WAN access disabled by default.
Remote Configuration updates	Yes, via telnet and/or HTTP. WAN access disabled by default.
Firmware updates via local PC application	Yes
Configuration updates via local PC application	Yes
Working and stored image	Yes
Persistent storage of configuration during power down	Yes
Reset to default or factory	Yes

6.4.2 IP Address and DNS Name Management

Feature	Comments
LAN interface factory default IP address	192.168.254.254
Manual IP address assignment for Ethernet	Yes
UPnP Support	Yes, UPnP discovery initially, Full UPnP support Q4, 2002
Dynamic IP address assignment for ATM VCC via PPP/IPCP	Yes
DHCP relay agent	Yes
DHCP server	Yes
DHCP client for WAN port	Yes
DNS relay	Yes
Configurable CHAP or PAP	No, auto-detection support
PPPoE relay (bridging)	Yes, multiple sessions supported
NAT	Yes, concurrent with NAPT
Network Address Port Translation	Yes, support for port ranges
Configurable WAN-to-LAN pass-through of NAPT	Yes; Provides access to LAN-side servers (FTP, SMTP, HTTP, etc.)
VPN pass-through support	Multiple PPTP, L2TP and IPSEC sessions
IP Multicast	Future
ALG support	80+ ALGs are supported

6.5 Fault Management

Feature	Comments
Power-on self test	Yes
Front panel alarm indication	Yes
Reset button	Yes
Event logging	Yes
PPP link status and reset	Yes
PING packet generation	Yes
Traceroute	Yes

6.6 Performance and Accounting Management

Feature	Comments
Ethernet port statistics	Yes
Bridging statistics	Yes
IP statistics	Yes, via SNMP only – Future GUI support
ICMP statistics	Yes, via SNMP only – Future GUI support
PPP statistics	Yes, via SNMP only – Future GUI support
TCP & UDP statistics	Yes, via SNMP only – Future GUI support
ATM/AAL5 statistics	Yes
Near end ADSL statistics (ATU-R)	Yes
Far end ADSL statistics (ATU-C)	Yes

6.7 Security Management

Feature	Comments
Password for Web-based access	Yes
Password for console and Telnet access	Yes
Access lists	Yes
Number of privileged users	3
Renumber well known server ports	Yes
Limit access to management from LAN	Yes

6.8 Firewall Capabilities

Feature	Comments
Stateful-Inspection Firewall	Yes
IP Filtering	Yes, - Source and destination router interfaces. - IP protocols. - Direction of traffic flow. - Source and destination network/host IP address. - Source and destination port ranges. - Protocol specific attributes (ICMP, etc.).
Denial of Service (DoS) protection	Yes
ICSA compliant	Yes, selectable ICSA 3.0a Compliancy Mode
Pre-configured settings	Yes, ICSA 3.0a Compliant, High, Medium and Low
Custom settings allowed	Yes
Snooze Support	Yes, Ability to disable firewall for a specific computer for set period of time
Firewall Logs	Yes, (packet/connection access, denial). Adjustable granularity of events logged and Syslog support.
DMZ support	Yes

Document Revision History

Version	Date	Editor	Description
1.0	04/02/02	DL	Initial document creation
1.1	04/15/02	DL	Initial document release
1.2	05/03/02	DL	Minor format corrections.
1.3	07/03/02	DL	Changes to reflect new part number/naming schema